Department of Mathematics (PG)

Value-Added Course

VACMAAD22 - APPLICATION OF DATA ANALYTICS

Code	Title of The Paper	Hours
VACMAAD22	Application of Data Analytics	**30**

Course Objectives

The course will develop the skills necessary to do Data Analytics (Bivariate and Multivariate Techniques also real time projects along with case study). Augmented with case studies, lectures, and research notes, course aims to deepen the understanding of methods for collecting, analysing, and summarizing data pertinent to solving Data problems.

Course Learning Outcomes

The Learners will be able to

- Do their final year projects on their own.
- Build their carrier in Data Scientist and Science stream.
- Become Freelancers by doing Data Analyst or Science projects.

Course Syllabus

Unit I: Data Science Introduction & Data Visualisation Using Tableau (6 Hrs.)

Data Science Brief - Data Science Importance and Key challenges - Life of Data Science Expert - Data Science Application - Tableau Basics Using Tableau - Time series, Aggregation, and Filters Using Tableau.

Unit II: Data Visualisation Using Tableau (Cont…) (6 Hrs.)

Tableau - Maps, Scatterplots, and Your First Dashboard Using Tableau - Joining and Blending Data, PLUS: Dual Axis Charts Using Tableau - Table Calculations, Advanced Dashboards, Storytelling Using Tableau.

Unit III: Data Science Introduction Using R Software (6 Hrs.)

What is R? And Why R? - Introduction to R using R software - R Implementation using R software.

Unit IV: Data Visualisation Using R Software (6 Hrs.)

Visualizing data using R software - Predictive Customer Science using R software - Bank Loan Modelling using R software.

Unit V: Time Series & Correlation Analysis Using R software (6 Hrs.)

Introduction to Time Series Analysis - Time Series Analysis and Forecasting using R software - What is Correlation Analysis? - Correlation Analysis using R software.

Teaching Methodology:

- Case Study Discussion
- Project Problem Solving
- Experiential Learning
- Hands-on Training

Delivery Mode:

- Blended Learning – Both Online and offline

Course Reference material:

- **R Software Machine Learning Projects** by Dr. Sunil Kumar Chinnamgari.
- **Tableau 10 Complete Reference:** Transform your Data with rich data visualizations and interactive dashboards with Tableau by Joshua N. Milligan (Author), and Tristan Guillevin (Author).
- **Learning Tableau 2019:** Tools for Data Intelligence, data prep, and visual Science, 3rd Edition Paperback – March 27, 2019, by Joshua N. Milligan (Author).

Assessment Methods:

- Case study problem solving
- MCQ